November 2015

Northwest Fisheries Science Center (NWFSC) Annual Guidance Memorandum for Fiscal Year (FY) 16

Purpose

This Annual Guidance Memo (AGM) outlines our priorities in Fiscal Year (FY) 16 to implement our 2013 strategic plan within the constraints of our available resources. We will use scientific merit and management need as the primary factors in prioritizing our future activities; it is our responsibility to allocate the funding we receive in a way that meets the nation's and region's highest scientific needs. We must also follow congressional and agency direction as defined by the level of funding in specific budget lines. This AGM outlines how we will accomplish this in FY16.

> "We are the nation's Environmental Intelligence agency. We provide timely, actionable and reliable information, grounded in authoritative science that is oriented towards real-world questions confronting families, businesses, communities and nations."
>
> Dr. Sullivan

Agency and Regional Context

Communities across the country are becoming more vulnerable to severe events. To limit the impacts of these events, NOAA provides the environmental intelligence communities need to ensure preparedness and resilience; allowing communities, economic sectors, and individuals to plan to minimize or avoid impacts and recover from events more quickly. To help meet these needs NOAA Fisheries will continue to pursue ecosystem-based management for the delivery of information and services. It is an integrated approach that incorporates the entire ecosystem, including humans, into resource management decisions, responds to a changing marine climate and is guided by an adaptive management approach.

The priorities for NOAA Fisheries in FY16 will continue to emphasize the core mandates to sustain the Nation's marine fisheries[1] and to conserve and recover protected species. All other activities and programs serve to support these two core responsibilities. To meet its stewardship goals, NOAA Fisheries must have high quality science that meets the needs of its managers and stakeholders in a timely fashion. In FY16 the main science initiatives for NOAA Fisheries include: improved climate advice through the development of regional action plans implementing the agency's Climate Science Strategy, increased understanding of ecosystem processes leading to new tools to implement ecosystem-based fisheries management, development of science-based tools to support sustainable domestic marine aquaculture, and continued improvement of fisheries stock assessment methods under the Next Generation Stock Assessment Framework. NOAA Fisheries has also increased focus on key protected species including Southern Resident killer whales through its "Species in the Spotlight" initiative.

[1] The term "fisheries" encompasses wild capture, marine aquaculture, and recreational fishing.

Our ongoing scientific program reviews and peer reviews of our surveys, groundfish stock assessments, and protected species science also influence selection of annual priorities for the NWFSC. This year we completed a review of science supporting the Endangered Species Act and Marine Mammal Protection Act with a positive review of both our protected fish species and Southern Resident Killer Whale science. These reviews were conducted jointly with the Southwest Fisheries Science Center (SWFSC) and the set of recommendations were released in late September 2015. They are available on the Center's website: http://www.nwfsc.noaa.gov/news/events/program_reviews/index.cfm.

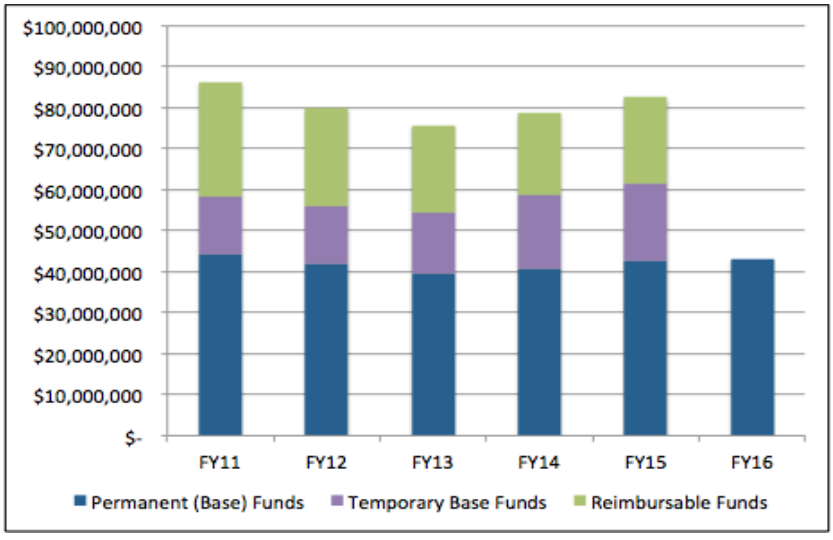
The Pacific Northwest experienced significant drought in 2015 and unprecedented warm ocean conditions, and is a region where climate change in the form of ocean acidification effects and perhaps temperature are present now. In subregions, such as Puget Sound, early marine survival of salmon is extremely low, the recovery of the Southern Resident killer whales is slow, and forage fish such as Pacific herring are at very low levels in much of the Sound. These regional pressures, along with the agency priorities and the program review recommendations mentioned above, guide the selection of our FY16 NWFSC priorities.

Budget Outlook – Agency and NWFSC

Current Budget (FY15)

The Center's budget in FY15 was slightly increased compared to FY14, due to both the restoration of some of the reduction in Pacific salmon funding and reallocation of existing NOAA Fisheries funds to fill critical gaps in West Coast groundfish funding. In addition, for the first time we received a portion of the cost recovery fees collected as part of the West Coast catch share program. These funds are strictly dedicated to activities supporting the catch share program. The level of reimbursable funds in FY15 was comparable to the previous year.

NWFSC Permanent (Base), Temporary Base, and Reimbursable Funds FY11-FY16



Our federal allocations are provided to the Center through specific PPA (Programs, Projects and Activities) categories. The PPAs direct the funds to be used only for the purpose as described by the PPA. From these funds we support the research and research enabling services (supported through the internal fund).

Select NWFSC FY16 budget allocation based on a full year continuing resolution

PPA	FY16 (CR Allocation)
Salmon	$10,404,296
Fisheries Research and Management	$6,750,908
West Coast Groundfish	$5,819,727
Expand Annual Stock Assessments	$5,769,420
Observers	$4,820,537
Product Quality and Safety	$1,438,101
Economics and Social Sciences Research	$1,048,356
Aquaculture	$887,835
SR Killer Whales	$840,387
Habitat	$306,404

Note: Not all PPAs are listed, and this table does not include any temporary funds.

This Year's Budget (FY16)

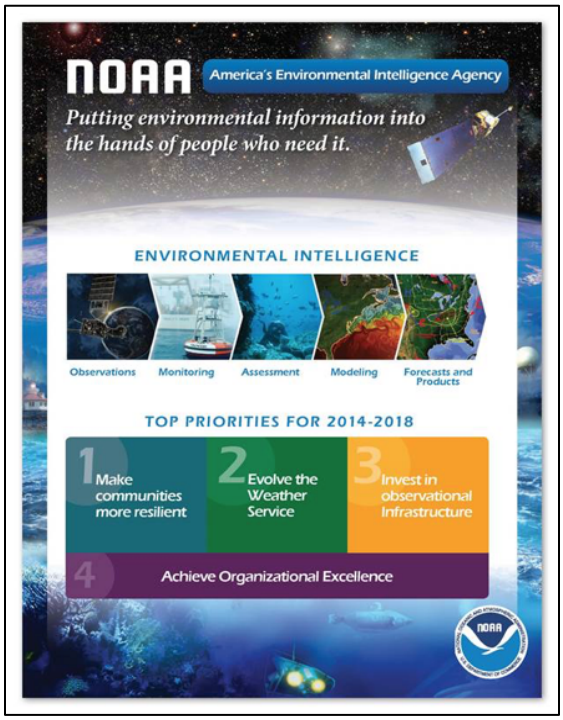
The President's FY16 budget request, submitted in 2015, reflects the importance for NOAA Fisheries to continue improving our stock assessment capabilities and to implement electronic reporting and electronic monitoring in managed fisheries. For the West Coast, increases include funding for next generation stock assessments and to further electronic reporting/monitoring in the catch share fisheries. The funding for Pacific salmon and Southern Resident killer whales remains unchanged from FY15 levels.

The FY16 budget situation, however, was highly uncertain until recently when Congress passed and the President signed a two-year budget resolution. A final FY16 budget will not be known until the appropriation process is completed. At this time there are differences between the FY16 budgets proposed by the House and Senate; therefore, it is prudent to be conservative and anticipate level funding as well as plan for a possible 5 - 10 % reduction from FY15 funding.

NOAA Fisheries budget request in FY16 also proposed a restructuring of the budget. The number of budget lines was significantly reduced. The result of this change is that a number of budget lines will be

consolidated into a smaller number of lines. The intent is to provide NOAA Fisheries with more flexibility in meeting our mandates and mission and to be able to quickly adjust to changing circumstances.

FY16 Priorities



For FY16 we continue to have two categories of priorities – Focus Areas and Core Research Areas.

Focus Areas are high priority strategic efforts that look to the future. They are cross-divisional and have been selected based on stated priorities of NOAA and our customers, an assessment of the political landscape in the region, and prime opportunities for potential budget growth in the near term. In FY16, we will build on or continue several of the activities initiated in FY15.

Core Research Areas are our ongoing activities that we must fund to accomplish our core responsibilities under the Magnuson Stevens Act, Endangered Species Act, Marine Mammal Protection Act, and other mandates.

Focus Areas:

Review of FY15

Last fiscal year we identified four focus areas; California Current Ecosystem Monitoring - Ocean Conditions, Habitat Science, West Coast Salmon Recovery, and Marine Forensics and Seafood Safety. It is important to assess progress.

- *California Ecosystem Monitoring* - In FY15 we saw a continuation of the 'ridiculously resilient ridge' leading to sustained very warm ocean temperatures in the Northeast Pacific Ocean as well as an unprecedented harmful algal bloom event, and many worked diligently and creatively to sustain or augment surveys to increase the amount of data collected.
- *Habitat Science* - We committed to supporting the National Habitat Conservation Team and a Center scientist served as chair of the science team and made good progress in leading the team and advocating for West Coast priorities. There were significant accomplishments in retrospective habitat analysis and habitat status and trends assessment in Puget Sound. These analyses provide quantitative information about the status and trends of multiple habitat types across the Sound for each ESA - listed species. They also provide important information, not previously available, to assess species/population status as part of the required Five Year ESA Status Review and to aid in defining recovery priorities. We also initiated a project to

comprehensively evaluate capacity of freshwater habitats in the Columbia to support salmon populations, with a focus on the Wenatchee (nearing completion) and a project taking a basin-wide examination of freshwater habitat capacity. With Phil Roni leaving the Center we will re-assess our role in national habitat activities.

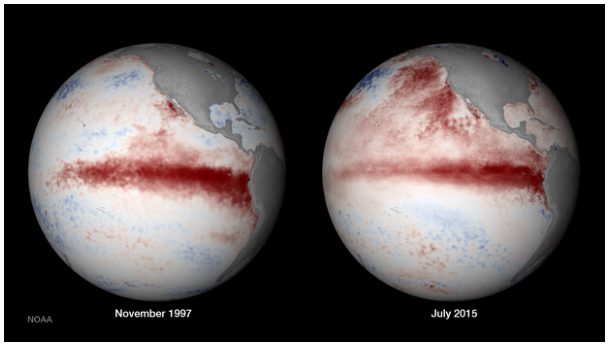
- *West Coast Salmon Recovery* - The continuing drought in California and its expansion to the Pacific Northwest in combination with warm ocean conditions and probable El Nino rightfully trained much of our attention on salmon recovery in response to these conditions. We supported the West Coast Region and collaborated with the SWFSC on life-cycle modeling for the Central Valley and in developing improved juvenile monitoring systems.
- *Marine Forensics and Seafood Safety* - In FY14, the marine forensic programs at NWFSC and in Charleston, SC were combined into a single national program. We worked to complete agreements with the Office of Law Enforcement (OLE) to support the program; however, because of delays in filling the director position for OLE we did not fully complete the agreements. Nonetheless, headquarters financially supported much needed upgrading of obsolete analytical equipment to support investigations and cases.

Focus Areas for FY16

In FY16 we will devote strategic effort to the areas identified below, which are a combination of continuing focus areas from last year and adding new focus areas. We will articulate the resources we need to meet future requirements and develop a plan to get there. The FY16 focus areas either require or will benefit from close coordination with the SWFSC to meet the science and management needs of the West Coast Region (WCR). In doing so, we will ensure that NWFSC continues to conduct science that is cutting-edge and relevant. These efforts aim to position the NWFSC to compete successfully for research funding from headquarters and external partners. In addition, a reserve fund will be established to address emerging needs.

- ✓ **California Current Ecosystem Monitoring -- Ocean Conditions.** El Niño/Southern Oscillation (ENSO) forecast models are indicating that there is high probability for El Niño persisting through winter of 2015 - 2016 and high chance of lasting through the spring of 2016. The ocean temperatures in northeast Pacific and in the Gulf of Alaska were exceptionally warm through the summer of 2015. There was a coast wide harmful algal bloom event of a scale not observed for over a decade, sightings of species very uncommon to the region, and continued concern for significant negative effects on salmon. We will coordinate coast wide and across NOAA to leverage our existing surveys and partner with other NOAA scientists to maximize the collection of relevant physical and biological data to assess the effects of the El Niño on the biological community and fishery resources.

- ✓ **Newport Line.** The FY15 review of our protected fish species science programs resulted in strong support for the bi-weekly Newport, Oregon hydrographic line and its long time series. The review recognized its incomparable value for understanding the dynamics of the northern California Current ecosystem. We will develop and implement a long-term internal implementation plan with dedicated resources to support the sampling of the Newport line for the next 5 years.



The 1997-1998 El Niño was distinguished by record-breaking warm sea surface temperature anomalies in the equatorial east-central Pacific Ocean. So far in 2015, increasing equatorial warmth is developing alongside a positive Pacific Decadal Oscillation, characterized by persistently higher sea surface temperature anomalies of the northeastern Pacific. This image shows sea surface temperature anomalies from November 1997 and July 2015. (NOAA)

- ✓ **Regional Action Plan on Climate.** NOAA Fisheries' national climate science strategy is in place and a next step in implementation is developing regional action plans. In FY16, we will complete a joint West Coast action plan in time for the ecosystem science program review in spring/summer 2016. The events of 2015 with the 'warm blob', sustained elevated temperatures and drought conditions are a preview of conditions more likely than not to be experienced in 2080 according to climate models for the Pacific Northwest. This further elevates the need and value of a robust regional action plan.

- ✓ **Salmon Recovery**. The science review in FY15 of our Pacific salmon science program highlighted the continued need and value of coordination and collaboration with the SWFSC and the WCR. The extension of the drought to the Pacific Northwest in 2015 and continued warm ocean conditions have further highlighted the critical need for broad and effective science support for Pacific salmon management on the West Coast. In FY16, we will implement the action items from the science program review including but not limited to: improve integration of human dimensions and salmon recovery science (early FY16); review the state-of-the-art for on-the-ground and remote sensing-based programs that provide habitat monitoring and provide salmon-relevant data (Sept. 2016); work with the WCR to determine if and how recovery objectives should be revised to include climate projections (Feb. 2016); support the WCR on the latest FCRPS Biological Opinion for 2018 by systematically assessing the availability of PIT-tag survival data to populate our life-cycle and hydrosystem models (June, 2018); and form a working group and prepare a paper reviewing the kinds of life cycle models under development at NMFS, including an analysis of strengths and weaknesses, strategies for estimating model parameters, and accounting for uncertainty, data management to support modeling, and prospects for future development (Dec. 2016).

- ✓ **Aquaculture Science**. The annual priorities document for NOAA Fisheries highlights the importance of supporting development of sustainable domestic marine aquaculture through advancing new science-based management tools (e.g., genetic and ecosystem models), and aquaculture technology development and transfer to industry. In FY16, we will collaborate with the National Aquaculture Program on an aquaculture science program review of West Coast research. In addition, we will

continue the technology transfer of sablefish culture science to industry and tribes, develop alternatives to fishmeal and fish oil in feeds, expand macroalgae culture with partners, and expand shellfish genomic studies.

Core Research Areas:

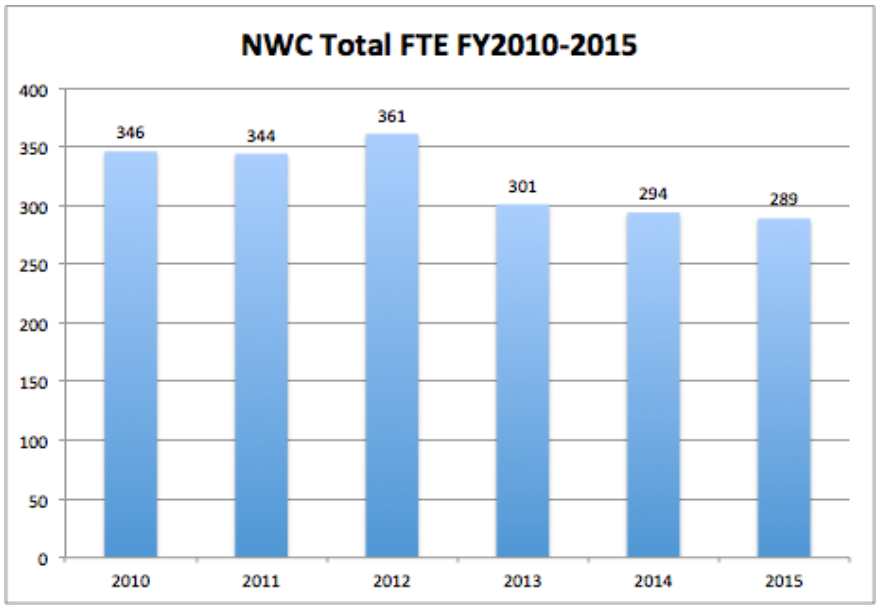
The following activities are the highest funding priorities for the NWFSC in FY16 and must be properly supported to meet national and regional needs. In some cases accomplishing these activities will require effort to secure needed resources, in others a change in how we do business. Carrying out these responsibilities may include reducing or re-calibrating the level of effort we can devote to an activity given current budget realities and realities that have hindered the effective use of NOAA ship time. Exclusion from this list does not mean an activity will not be supported, but rather this list includes the highest priorities and is not in rank order.

- ✓ We must fully staff all high priority West Coast surveys for fish and Southern Resident killer whales. In some cases our ability to staff surveys has been a limiting factor for completing the work. We will determine our capacity to staff and provide operational funding for NOAA ship-based surveys (e.g., hake, Southern Resident killer whales, juvenile rockfish) and high priority charter vessel based surveys (e.g., West Coast groundfish survey, juvenile salmon, hook and line survey in the southern California Bight).
- ✓ Increasing management strategy evaluation (MSE) capacity is a priority for NOAA Fisheries. The NWFSC has strong capabilities across Divisions for MSE, and as such we will backfill a stock assessment position in a manner that facilitates crossover efforts related to stock assessment and ecosystem effects on managed species. For example, a topic of interest for MSE could be the vulnerability of climate-change induced northern shifts in managed fish species.
- ✓ Support the Pacific Fisheries Management Council (PFMC) and US-Canada treaties by delivering analyses and data identified to meet the needs for setting the 2017/2018 harvest specifications, conducting stock assessment improvement studies, continuing economic data collection for the catch share program, and supporting technical activities of the Pacific Salmon Commission.
- ✓ Conduct observer monitoring to address biological and ecological data needs and to develop a comprehensive monitoring program that maintains biological sampling requirements.
- ✓ Participate in regional and national efforts to implement electronic reporting (ER) and electronic monitoring (EM) for augmenting fishery monitoring. An ER/EM program that maintains biological sampling requirements is under development through the PFMC. We will continue to work cooperatively with the WCR and Pacific States Marine Fisheries Commission in support of the Council initiative, as well as conduct our research on enhanced electronic reporting.
- ✓ Build on substantive progress with the PFMC to cooperatively refine the set of Integrated Ecosystem Assessment (IEA) indicators that are used by the Council. We will work with the Council's Scientific and Statistical Committee to develop the timing and process for bringing IEA information to the Council beyond the annual report of the State of the California Current Ecosystem.

- ✓ In FY14 the NWFSC was given the responsibility to be the lead for a national marine forensics program. In FY16 we will complete an agreement with OLE to support marine forensics needs of the agency and complete a strategic plan to guide national marine forensics activities.
- ✓ Provide biological, social, and economic science to support the recovery of listed species, including Pacific salmon, Southern Resident killer whales, Puget Sound rockfish, green sturgeon, and Pacific eulachon. Our priorities are to finalize status review updates for salmon and rockfish and complete an analysis of salmon ocean distribution to support Southern Resident killer whale critical habitat designation.
- ✓ Implement the Administration's Public Access to Research Results (PARR) initiative. Support the efforts of the Transition Team and insure we: 1) are routinely submitting accepted scientific papers to the NOAA Library, 2) have published all data management plans by January 1, 2016, and 3) will provide access to existing data sets by March 1, 2016.
- ✓ Fulfill our commitments to provide scientific support to important Biological Opinions concerning federally listed salmon populations, including but not limited to the Federal Columbia River Power System and Willamette River Biological Opinions and the Central Valley Biological Opinion in coordination with the SWFSC.

Aligning Our Workforce and Our Research Priorities

All proposed new hiring actions must be approved by the NOAA Fisheries Deputy Assistant Administrator through development of an annual staffing plan. For the NWFSC, the decline in budget in FY12 and FY13, very modest adjustments in FY14, and a flat budget in FY15 and FY16 means that we will need to continue strict control of labor costs to have the necessary level of operational funds to execute our research activities. The budget cuts and annual 4 – 5% increase in salary costs due to the Commerce Alternative Personnel System (CAPS) and the impact of non-labor cost inflation has meant that the NWFSC has had to drop 72 full time equivalent (FTE) positions (20 % decline) since peak staffing in FY12.



The size of the NOAA Fisheries workforce overall has declined in recent years, but at a rate (10% reduction) less than the rate for the NWFSC. In FY16 we will work to have no net increase in labor cost for permanent staff. This means that we will not be able to replace staff at the same rate as attrition and we will need to address the increase in labor costs from CAPS.

Given this budget reality we will use the following strategies to manage our workforce and align our human capital to meet mission and core research activities:

- ✓ Continue to fill labor shortfalls through noncompetitive reassignments wherever possible. Only mission critical hires will be filled by candidates external to the Center. The implementation of our science plan and corresponding workforce management plan will be the basis to provide context and incentive for workforce realignment.
- ✓ Strive for no net increase in labor costs for permanent staff during FY16.
- ✓ Conduct a review of the Divisional staffing plans. As needed adjust divisional organizational charts to reflect the new budget reality and accompanying change in mission scope and that are responsive to the current need for sustained level permanent labor cost ceiling. The planning horizon will be FY18.
- ✓ Assess technical capacity to operate and support analytical instrumentation, such as the newly acquired stable isotope mass spectrometer.
- ✓ Continue efforts to replace facilities at Mukilteo to provide staff with the infrastructure needed to carry out state-of-the-art science.
- ✓ Update our Human Capital Investment Plan in response to staff morale concerns identified in the recent agency-wide survey and reinvent the Human Resource Management Team to address work life issues and staff morale.

Annual Science Plan Implementation Process – The Future

We will position the Center to be forward-looking and take an approach to science and research activities that meets regional and national needs, maintains necessary infrastructure and support services, and aligns our workforce capabilities with core and high priority mission areas. Our implementation process is evolving and will mature over the next few years. The goal is to conduct programmatic planning that is more transparent to staff, agency leadership, and constituents. The planning process will be effective if we can clearly track and explain how we arrived at our priorities for projects that fall within the broader priorities described in this AGM.

Over the last few years we have worked hard to establish a foundation for future strategic planning and implementation. We have redesigned and initially populated the Research Project Tracking Database. We have adapted it as a tool to assess research activities across the Center and initiate research prioritization. We will use this to develop detailed Project Plans that include activities, timelines, budget, staffing and products. Working with the Division Directors we will continue to make the following improvements to the process in FY16:

- ✓ Enhance the utility of the Project Tracking Database by improving connections between staff, budgets, and Project Plans, and generating better information about future staffing needs and training.
- ✓ Track implementation of recommendations from the fishery stock assessment data and process peer reviews and the protected species reviews, with the goal of closing out on the recommendations from the fishery stock assessment data review and begin work on implementing recommendations of the protected resources program reviews.
- ✓ Following increased emphasis on the use of the NOAA Fisheries Electronic Annual Operation Plan (eAOP) system for development of the NOAA Fisheries Annual Implementation Plan, we will begin to incorporate milestones and products from Project Plans into the eAOP system and institute more formal tracking of milestones with assignment to Divisions at the level of Programs.